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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,948

06/06/2006

Klaus Hahn

12810-00266-US1

1781

23416

7590

05/27/2009

CONNOLLY BOVE LODGE & HUTZ, LLP

P O BOX 2207

WILMINGTON, DE 19899

EXAMINER

NEGRELLI, KARA B

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

05/27/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,948	Applicant(s) HAHN ET AL.	
	Examiner KARA NEGRELLI	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 1-4, 6, 9 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5, 7-8, and 10-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/06/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

MOLDABLE-FOAM MOLDINGS COMPOSED OF EXPANDABLE STYRENE

POLYMERS AND MIXTURES WITH THERMOPLASTIC POLYMERS

DETAILED ACTION

Election/Restriction

1. Applicant's election with traverse of claims 1-7 and 15-17 in the reply filed on May 7th, 2009 is acknowledged. The traversal is on the ground(s) that since the International Search Report did not report lack of unity of invention, the unity of invention requirement is fulfilled and any reliance upon independence or distinctness of the invention is not relevant under the PCT. This is not found persuasive because the ISR is only for the purpose of identifying prior art (MPEP 1843.05) and is nonbinding on the Office (MPEP 1893.03(e)). If the examiner finds that a national stage application lacks unity of invention, the examiner may require an election (MPEP 1893.03(d)). Claims 1-4, 6, 9, and 12 are withdrawn from consideration.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 5, 7, and 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Henn et al. (US 5,525,637).

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4. It is noted that while claims 5 and 7 claim a polystyrene, the claims are recited in the product-by-process format by use of the language, "A process...comprising...a polymer mixture comprising 50 to 90% by weight of polystyrene B selected from **free-radical polymerized** glass-clear polystyrene (GPPS) or **anionically polymerized** polystyrene..." Case law holds that:

Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

5. To the extent that the process limitations in a product-by-process claim do not carry weight absent a showing of criticality, the reference discloses the claimed product in the sense that the prior art product structure is seen to be no different from that indicated by the claims.

6. Henn et al. teach expandable styrene polymers comprising a mixture of from 50 to 85% by weight of (a) polystyrene and from 15 to 50% by weight of (b) styrene-acrylonitrile copolymer (column 3, lines 41-51). The styrene polymers are prepared by mixing the components in a melt using an extruder, where during addition of (d) a blowing agent (column 2, lines 31-32), the extrudate must be cooled so rapidly after extrusion so that foaming does not occur (column 5, lines 1-5). The resultant styrene polymer is subsequently comminuted, usually by granulation (column 5, lines 5-6).

7. Henn et al. teach that the mixing of components (a) and (b) can be carried out, particularly by extrusion (column 5, lines 25-26). The styrene polymer must be

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subsequently impregnated with a blowing agent (column 5, lines 27-28). This is achieved by adding the blowing agent to the molten polymer during extrusion (column 5, lines 29-30). The resultant polymers are comminuted to sizes of from 0.1 to 6 mm (preferably 0.4 to 3 mm) (column 5, lines 34-36). This is carried out by granulation after extrusion (column 5, lines 36-37). The particles are usually in bead form or pellet form (column 5, lines 38-39). The granules then are suspended in a liquid, usually water (column 5, lines 40-41). Henn et al. do not specify at what pressure pelletizing is performed. One of ordinary skill in the art would recognize that because no pressure is specified, the process is expected to be performed at atmospheric pressure (1 bar).

8. Henn et al. further teach that components (a) 100 parts by weight polystyrene (84.7% by weight) and (b) 18 parts by weight styrene-butadiene-styrene block copolymer (15% by weight) are mixed at a temperature of 180 °C in an extruder (column 6, lines 36-41). The mixture was forced through a die plate having 1 mm bores (column 6, lines 42-43). The extrudates were solidified in water and granulated into particles (beads or pellets) (column 6, lines 43-45). The beads had a density of 23.8 g/L (column 7, line 4).

9. Henn et al. further teach that the formed expandable styrene particles can be welded to form moldings (column 5, lines 60-61, relevant to instant claim 7), and the moldings have a density of from 5 to 70 g/L (column 5, line 63).

10. Instant claims 10-11 state properties of the polymer mixture formed in claim 7: a polydispersity of less than 3.5 (instant claim 10) and particularly, a polydispersity of from 1.5 to 2.8 (instant claim 11). Henn et al. do not elaborate on the properties recited in

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claims 10-11. However, since the same composition that is disclosed in instant claim 7 (by the same method disclosed in instant claims 7) is taught in Henn et al., one of ordinary skill in the art would expect that the composition of Henn et al. would have the same properties (polydispersity) as the composition disclosed in claim instant claim 7.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henn et al. (US 5,525,637).

13. Henn et al. further teach that styrene polymers of the invention have a mean molecular weight M_w of from 100,000 to 200,000 (column 3, lines 1-4).

14. The reference differs from claim 8 by failing to disclose an example falling within the claimed range, and by failing to disclose a range with sufficient specificity to anticipate the claimed range. However, the reference teaches a range that overlaps the claimed range, and it has been held that overlapping ranges are sufficient to establish *prima facie* obviousness. See MPEP 2144.05.

15. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the range

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taught by the reference because overlapping ranges have been held to establish *prima facie* obviousness.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARA NEGRELLI whose telephone number is (571)270-7338. The examiner can normally be reached on Monday through Friday 8:00 am EST to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571)272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KARA NEGRELLI/

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Examiner, Art Unit 1796

/Randy Gulakowski/

Supervisory Patent Examiner, Art Unit 1796